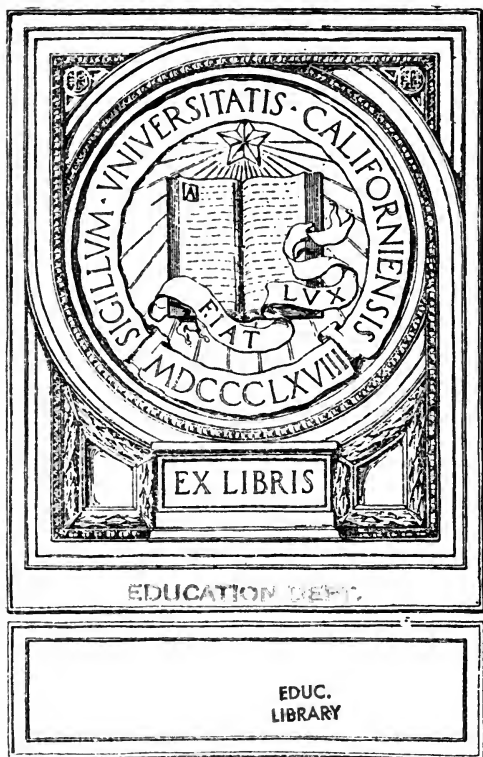


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IX. INDUSTRIAL EDUCATION IN THE NORTHWEST

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The Northwest, particularly the state of Washington, is making some progress along the lines of industrial education and vocational training in the elementary and intermediate field of education. The meaning of the terms industrial education and vocational training is that used by Dr. David Snedden, commissioner of education of the state of Massachusetts.

The description of the schools established this fall in Seattle will further illustrate the writer's understanding of these much-abused terms.

The history of the movement here parallels that of a number of eastern states, notably Ohio. Manual training began its leavening influence in the school curriculum eighteen years ago in the Seattle High School. Since that time it has made itself an important department of the city's school system, requiring over fifty teachers for its instruction in all grades of the school. Tacoma and Spokane followed soon after Seattle, and have had a proportionate growth. Today there is scarcely any town over 4,000 which does not have some form of manual training in its school work, while many rural communities are making a beginning in elementary handwork and agriculture.

Like the best progress of the East the subject manual training has itself been greatly modified in method and content and an effort has been made to use the industries of the community as the basis of this work.

Such is the case in the great fruit-raising sections of the state. An example of this is at Wenatchee, where agriculture is being taught very successfully, with the emphasis upon horticulture and the present and future needs of that great fruit-growing country.

A similar example is that at Waterville. Led by a very able and public-spirited citizen, Hon. A. L. Rogers, the people are laying the foundation for what may be a very remarkable country school, in which

the boys from the entire countryside are to be taught such industrial branches as will fit them for the highest efficiency in practical farming.

At Snohomish the school board has recently acquired a considerable tract of land for practical agriculture. It also has iron- and wood-working shops in connection with this high school. The work in the latter, however, is based upon the educational rather than vocational point of view.

On the Pacific slope of this state, the region of the great fir and cedar forests, woodwork and the vocations dependent upon the production, manufacture, and distribution of this all-important product predominate. For the boy, at least, the forms of manual training using wood are fundamental. For the girl, the home-makers' arts everywhere universal and fundamental to womankind are the basis of her manual training. The vocational impulse, however, affects these subjects for the girl only so far as they equip her better for the actual work and responsibilities of the home.

The writer is not aware of any vocational or industrial education in this section that seeks to equip the girl better for earning a living in definite lines of women's work, other than those few, such as dress-making or millinery, that may be developed from her work in the home-making course of the regular school work.

The seeming lack of schools for vocational and industrial education is not so much due to any failure on the part of those responsible for the promotion of the educational plans in either state, county, or city districts but rather to a failure on the part of the people as a whole, who do not yet feel any serious need for vocational education. The reason for this is that the state is new and the development of the raw material of the state is but scarcely begun. Lumbering and fishing predominate in the western section while wheat-growing and fruit-raising predominate in the eastern section.

Manufacturing has scarcely begun with us, consequently the commercial pursuits predominate in the cities and towns. That we are destined to become a great manufacturing section is evidenced by the abundance of raw material available, and also from the marketable water-power available in the Cascade and Coast ranges of mountains.

Further evidence of this attitude was shown in the last session of the state legislature when a bill for the appointment of a state commission on industrial education was defeated, because the legislature was

averse to appropriating any money for this purpose and because it thought the state Department of Public Instruction able to carry on any investigation as to the industrial and vocational conditions, both in the schools and the industries of the state.

However, realizing that a beginning should be made and that there is no pressing demand for a trade school, Seattle, the largest city in the state, has this fall opened up three so-called industrial centers to accommodate the pupils of the intermediate period—the seventh and eighth grades and the first and second years of the high school.

Preliminary to carrying out this plan the usual manual-training course for the boys of the sixth, seventh, and eighth grades was the year previous enlarged in its aim, content, and method from the usual educational manual training of giving the boys sequential problems in construction, in the solution of which the boys would gain something of skill in tools and processes, some knowledge of the materials used, and some appreciation of the constructive life about them. This enlargement consisted in making an industrial or vocational approach to the manual arts—using them to illustrate as actually as possible the industries and vocations that are dependent upon these arts.

While the limitations imposed by the regular school program prevented very much change in the actual work done by the boys, it was possible to give it a larger significance as a study of those vocations using similar materials and processes.

For example, in the sixth grades the aim is to emphasize the four important facts the worker in wood has to know to be successful in his vocation: (1) his tools and how to use them; (2) what woods and materials are suitable to use and why; (3) how to form and put them together; (4) what is wanted and how to supply it.

In the seventh grade this approach emphasizes the same idea, but from another standpoint. Here the different kinds of workers in wood are brought out. The differentiation due to the service each renders society by reason of the special skill and knowledge he possesses is emphasized. The following four points are kept before the class: (1) a need to be supplied; (2) what materials are required; (3) what form or construction is best and necessary; (4) what tools, machines, and processes are required.

In this way the class considers and makes some problem illustrative of the furniture-maker, the ship-builder or carpenter, the bridge-builder,

etc. In the eighth grade the application of power in the service of these different vocations is taken up in a limited way in much the same manner.

No originality is claimed for this plan. It was suggested by similar efforts in other cities.

It is reasonably successful in the hands of a skilful and well-trained manual-training teacher. It is to be regretted we do not have more such teachers. The very limited time granted this subject in our schools ($1\frac{1}{4}$ hours per week) is a serious obstacle in carrying out this idea successfully.

The industrial classes or centers opened this fall are best described by the circular which was sent home by the prospective pupil in order that his parents might understand fully the purpose of such a class:

SEATTLE PUBLIC SCHOOLS

THE ELEMENTARY INDUSTRIAL SCHOOL

The Board of School Directors of the Seattle public schools have authorized the opening of three industrial schoolrooms or centers.

The purpose of this circular is to explain the aims, plan, and program of such a school; the requirements for admission; its relation to the high school; and some of the reasons which have lead to its establishment.

The Elementary Industrial School is intended to provide a course of study relating much more to the industries than the ordinary school program, and containing a more practical training for a class of boys and girls in the public schools who will be better suited by instruction which will the better and sooner prepare them for training in a definite vocation. In every school there are some boys and girls who prefer studies and exercises that employ their hands and who have greater aptitude in such studies than their fellows. They advance in their development by what they do rather than by what they hear. They are practical-minded. Many such children drop out of school as soon as the law permits, not from lack of ability, but because the school fails to fit its procedure to their particular needs. The establishment of these industrial classes is an attempt to fit the school to the wants of this class of pupils. Such classes are not substitutes for a trade school, but are intended to lead more quickly and surely to apprenticeship in business or trade, while not closing the door to further study either in high or special schools if the pupil desires to pursue such a course.

The plan provides distinct courses for boys and for girls and requires the separation of those taking it from the regular school classes in the building where it is maintained, because of the difference between the courses.

The school day, which is the same as for the regular classes, will be divided

into seven periods of forty minutes each, about half of the time to be spent upon the ordinary school studies, modified to suit the end aimed at in this plan, and the other half to be devoted to the industrial and household arts—shopwork and mechanical drawing for the boys, and cookery, sewing, design, and drawing for the girls.

OUTLINE AND EXPLANATION OF INDUSTRIAL COURSES

For Boys	For girls
English	English
Geography—History	Geography—History
Arithmetic	Arithmetic
Mechanical drawing	Drawing and design
Shopwork	Sewing
	Cookery

English will include reading, spelling, penmanship, letter-writing, and composition.

Geography will include map studies, climatic conditions and influences, industries and products, exports and imports, routes and centers of trade, the studies to be correlated as far as practicable with the work in shop and kitchen.

In history there will be a review of the influential events in the development of our country, including particular reference to the country's greatest characters and their achievements, and of the causes contributing to our present national standing. The purpose will be to give an elementary knowledge of the important facts in our history and to imbue with a patriotic desire to be serviceable.

In arithmetic the fundamental operations include fractions applied in shopwork and in local problems; percentage and interest; applications of measurements and mensuration. The purpose will be to secure accuracy in the use of figures and practice in their application to practical affairs.

Industrial.—The shop instruction will consist of work intended to give knowledge of materials and their sources and use; tools and skill in their use; methods of construction; problems in machine- and hand-work; acquaintance with factory and individual production; the use of preservatives, as paints, oils, etc.; discussions of the various vocations; visits to work under construction, to manufacturing and commercial establishments.

The industrial work for girls will consist of:

Plain sewing, garment cutting and fitting, repairing, household linens, fabrics used in the home, sewing machine, class talks and discussions regarding clothing, hygiene, style, costs, methods of manufacture, the sweatshop, trades and vocations for women.

Plain cooking, properties of foods, economy, table service, sanitation, laundry work, care of the home, etc. Actual conditions are possible for

purchasing and preparing a simple lunch daily and serving same to other pupils at noon at cost. Class talks upon related topics of home life and its obligations, domestic service, income and expenditure, etc.

Applied design in surface decoration as affected by material and service, the use of color, problems in making designs for notebook covers, belts, pillows, draperies, etc. The aesthetics of the home.

THE RELATION OF THIS COURSE TO THE HIGH SCHOOL

The rank of this course will correspond to the seventh and eighth grades of the usual school course, and will require two years for its completion. At the end of the two years pupils completing this course, who choose to continue their school work, may enter the high school upon an equal footing with the pupils entered from the regular course.

REQUIREMENTS FOR ADMISSION

This course is open to any boy or girl thirteen years of age or over, who has completed the equivalent of the present sixth grade, provided, the parent or guardian makes a written request upon the form provided for that purpose, and further that the principal of the school last attended by the pupil recommends that the pupil should take the industrial course.

As only three schools can be established at this time, the number of pupils will have to be limited to 72 boys and 72 girls. Do you wish to have —— attend one of these schools? If so, please sign your name below as indicative of your desire to have —— chosen.

These classes or centers are similar to the prevocational classes of Indianapolis and the industrial school of Cleveland, Ohio. They differ in their organization and somewhat in the character of the pupil encouraged to enrol in these classes. Each class requires three teachers. The classroom teacher, a woman, has the boys while the girls are with the special teacher in cooking and sewing, and the girls when the boys are with the special teacher (a man) in benchwork and mechanical drawing. She is thus able to center the academic work about the respective instruction of both boys and girls. The plan uses the usual manual-training equipment of the building and the class occupies one of the regular schoolrooms.

In this respect there is no isolation or separation from the social spirit of the schools. Class distinctions are avoided. The significance of this plan of establishing such classes in any school building where conditions warrant it is illustrated by the following quotation from a letter to the writer written by Mr. W. E. Roberts, supervisor of manual training, of Cleveland, Ohio.

We have another Elementary Industrial School in operation, differing from the first in that it is a part of a regular elementary school. There are about one hundred and forty advanced sixth-, seventh- and eighth-grade children in this department. My earlier experiences made it possible to start this work without a hitch, and it has moved forward smoothly from the very beginning. I am more and more convinced that the very great problem stirred up by Industrial Education, so called, is not as much an industrial problem as a problem of remodeling our elementary-school work. The new movement is going to accomplish what should have been accomplished by the manual-training movement.

In the selection of the pupils the judgment of the principal and teachers was relied upon to recommend those boys and girls who would profit the most by such a course.

This has been done so that the pupils in these centers are of an average in capacity compared to any other group. These classes have been in operation about six weeks and sufficient time has not elapsed to determine any definite results. The expression of both pupils and teachers signifies that the purpose for which these classes were established is being met.

The aim of the course is industrial cultural education by the industries rather than education for the industries.

This last will undoubtedly come later when the age is reached that is best for learning a definite vocation. The success thus far assures us that the educational needs of a considerable number of pupils who grow by what they do, motor-minded, is for the first time being adequately met.

A word only can be said regarding the evening-school work. There is a large and enthusiastic attendance in the cities of Spokane, Tacoma, Everett, and Seattle, particularly in those classes in the commercial and industrial lines, such as bookkeeping, typewriting, mechanical and architectural drawing, machine shop, foundry, forging, and benchwork for the men, and dressmaking, sewing, millinery, household science for the women. As evidence of the interest and practicality of the courses, the total enrolment in Seattle night high schools this year is 2,163, with 35 per cent in the industrial courses.

The Y.M.C.A. in the three leading cities, Seattle, Tacoma, and Spokane, have more or less equipment for industrial education and are meeting a certain need among the workers in the various industries, such as the building and machine trades. This work is done at night. The

Seattle association has excellently equipped shops for the machine- and wood-working trades, and has been carrying on for the past two years a co-operative half-time apprentice course, in day classes. Sixteen boys from three machine shops are now enrolled in this course. They are also successfully given day instruction in gas-engine construction and operation, and there is also a class in surveying for vocational preparation for the subordinate positions.

All of this work is, of course, under private auspices and subject to the usual tuition of Y.M.C.A. work.

The foregoing statements as to what is actually being done in this Northwest in industrial education is at best incomplete. Sufficient has, however, been said to indicate that this section of the country is awake to the needs of this field of educational effort.





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